

### REMARKS

Claims 1-3, 5-6, 8, 12-14, and 18-21 are pending. Claims 1, 8, and 18 are independent. Claims 1, 8, 12, and 18 have been amended. Reconsideration of the action mailed December 12, 2003 is requested in light of the foregoing amendments and the following remarks. No new matter is added.

The Examiner rejected claims 8 and 12-14 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner rejected 1-2, 6, 8, 12-13, 18, 19, and 21 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,487,014 ("Li"). The Examiner rejected claims 18-21 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,999,313 ("Fukushima"). Applicant respectfully traverses the rejections.

The Examiner has objected to claims 2, 5, and 14 as being dependant upon a rejected base claim. Claims 2 and 5 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 14 would be allowable if rewritten to overcome the §112 rejection and to include all the limitations of the base claim and any intervening claims. Applicant appreciates the Examiner's recognition of allowable subject matter.

### **Section 112 rejections**

Claims 8 and 12-14 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 was objected to as being ambiguous as to the manner of performing the first recited step. Claims 12-14 were objected to as dependant upon claim 8. Applicant has amended claim 8 to clarify the "first port" as the "first input port" and respectfully submits that the Examiner's objections to claims 8 and 12-14 has been overcome.

### Section 102 rejections

Claim 1 stands rejected as anticipated by Li. Claim 1, as amended, is directed to a circulator that includes one input port (i.e., the first input port) that is operable to receive light having two components and two output ports. Each of the two output ports is operable to receive a respective one of the two components of light received at the input port. Li does not disclose or suggest a circulator in which light (or a portion thereof) received at a first input port is subsequently received at two output ports.

In Li, a circulator and switch apparatus is disclosed. Light input at a first port is output at a second port. Similarly, light input at the second port is output at a third port; light input at a third port is output at a fourth port; and light input at the fourth port is output at the first port. A switch can also be formed by reversing the magnetic field across a non-reciprocal device, such that light input at a first port is switched to output at a different port. *See* FIG. 13A-13B, and col. 13 lines 14-61. Whether configured as a circulator or a switch, all the light input at a single port is output at a single port. *See* col. 13, lines 31-34 (“all incident light at port P1 goes to port P2 independent of the polarization”). In contrast, the circulator of claim 1 requires that light received at a first input port subsequently results in components of the light being received at both the first and second output ports. Applicant respectfully submits that claim 1, as well as claims 2-3 and 5-6, which depend from claim 1, are in condition for allowance.

Claim 8 stands rejected as anticipated by Li. Claim 8, requires “transmitting a light signal including a first and a second component” from a first input port, “directing the first component of light into a first output port” and “directing the second component of light into the second output port.” Li does not disclose or suggest this feature of claim 8 because in Li all of the light transmitted from a first input port is directed to a single (e.g., a second) port. For at least the foregoing reasons, as well as the reasons set forth above with respect to claim 1, claim 8, as well as claims 12-14, which depend from claim 8, are in condition for allowance.

Claim 18 stands rejected as anticipated by Fukushima. Claim 18, as amended, requires a circulator that includes first and second input ports for receiving first and second light signals have a first polarization. In addition, the circulator includes a single output port that is operable

to receive the first and second light signals. Fukushima does not disclose or suggest a circulator in which the light received at the output port is comprised of the light received at two input ports.

In Fukushima, a circulator apparatus is disclosed in which light input at port 1 is output at port 2, light input at port 2 is output at port 3, and light input at port 3 is output at port 1. *See* FIGS 3-5 and col. 5 line 55 to col. 7 line 49. In Fukushima, light received at two distinct ports is output to two distinct ports. For at least the foregoing reasons, Applicant respectfully submits that claim 18, as well as claims 19-21, which depend from claim 18, are in condition for allowance.

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Date: \_\_\_\_\_

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Respectfully submitted,



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